REMARKS

Summary

Claims 1, 5, 21, 23-26 and 28-46 are pending in the application and all of the claims were rejected in the present Office Action. The Applicant has carefully considered the references and arguments presented by the Examiner, and respectfully traverses the rejections on the basis that a *prima facie* case of obviousness has not been made out.

The Applicant respectfully requests that this Office action be withdrawn and that a new Office action be issued which specifically addresses each of the claims in the application. The record does not show whether a *prima facie* case of obviousness has been made out in the case of each and every claim of the present application. In the Office action, the Examiner asserts that it is not necessary to specifically mention each of the claims in making a rejection. However, without such explicit mention, the written record is unclear. If the Examiner believes that the prior art as cited makes out a *prima facie* case of obviousness, then each of the claims ought to be specifically addressed.

Traversal of Examiner's Remarks

The Applicant respectfully traverses the Examiner's characterization of the word "terminal". While the Examiner may be entitled to make the broadest possible interpretation of a word consistent with the specification or a dictionary definition, such an interpretation must be consistent with the a definition in the specification of the application being examined or must be consistent with the conventional use in the English language, if the term is not otherwise defined in the specification. The Examiner has taken the position that "terminal" is not explicitly defined in the specification.

The Examiner asserts that "a line between elements is contacted by the elements and thus this line is a terminal." (Office action, page 10) Merriam-Webster's Collegiate Dictionary, 10th Edition (extract attached) gives a suitable definition of a terminal in an electrical context as "a device attached to the end of a wire or cable to an electrical apparatus for convenience in making connections." When the specification is read in conjunction with the drawings, it is manifest that

253562.1 2

terminals are related to external connections to the device being described. By way of example, "the collector of an oscillating transistor 33 is connected to the power terminal 31...." (specification, page 1, lines 21-22; Fig. 6). As such, the Examiner's assertions regarding the interpretation of the term "terminal" is unsupportable. As the Examiner has considered that the interpretation of the word "terminal" is material to the making out of a *prima facie* case of obviousness, the Applicant respectfully submits that a *prima facie* case of obviousness has not been made out.

In response to the Applicant's arguments that Hsieh teaches a fixed divide-by-two circuit in Fig. 1(a) and in the written description (Hsieh, page 1, col. 1, line 60, bridging col. 2, line 11), the Examiner states the passage has been reviewed and "that the use of a divide-by-two circuit is merely one example of what can be used in Hsieh. Other duty cycles can be used and accordingly Heish is not limited to only use of a divide-by-two." (Office action, page 10). The Applicant respectfully traverses the Examiner's assertions.

The background section of a patent application is not considered to be a part of the disclosed invention. It may disclose information that is relevant to the subject of the invention and may disclose information that the applicant Hsieh considered to be prior art. As such it is relevant for what it teaches, and no more than that. It is not an embodiment of the invention disclosed by Hsieh, and cannot be combined with an embodiment of Hsieh, except through a showing that such a combination would have been obvious to a person of ordinary skill in the art at the time the invention that is the subject of the present application was made. The Examiner has not made such an argument, and thus the combination of the teaching (enabled or not) of the background section with that of the remainder of the specification of Hsieh is not supported.

In the background section cited, Hsieh specifically distinguishes between a divide-by-two circuit [16] which is in the output path and which is not in a frequency control loop and a Divide-by-N counter [17] which is used in a frequency control loop. The <u>invention</u> disclosed by Hsieh, see for example Fig. 4, discloses a divide-by-N counter [18] in the frequency control loop, and not in the output path. Nothing in the prior art cited by Hsieh teaches that the divide-by-two device can have anything other that a divide-by-two function.

Hsieh makes it clear in the background that the use of <u>any</u> frequency divider in the signal chain is disadvantageous in that the "frequency of the digital signal Fvco

253562.1 3

has to double in advance to obtain the pulse signal." (col. 2, lines 3-5). The objective of the invention disclosed by Hsieh is to "convert[] a pair of differential analog signals from an oscillator into an output pulse signal with a 50% of duty factor. The <u>pulse signal has the same frequency as that of each of the differential analog signals.</u>" (Hsieh, Abstract) [emphasis added]. As such, the digital output frequency in Hsieh must be the same as that of the input analog frequency.

Hsieh, in the disclosure of the invention and in the Abstract, teaches that the digital output frequency is the same as the VCO output frequency. The Examiner is unjustified in drawing any different conclusion.

Moreover, the word "controlling" as used in Claim 26 of the present application, implies that there is some means of selecting the dividing ratio. Nothing in the references teaches or suggests that any of the circuits identified by the Examiner in Hsieh can be controlled to operate at other than divide-by-two. If the circuits were modified to do so, the device taught by Hsieh as the invention (that is in the specification excluding the background section) would be inoperative for its intended purpose which, for purposes of this traverse, is asserted to be the portion of the Abstract cited above. Moreover, in accordance with the teaching of the background section, a division by more that a factor of two would be even more disadvantageous according to Hsieh.

See Baxter Int'l, Inc. v. McGaw, Inc., 149 F.3d 1321, 1328 (Fed. Cir. 1998) (quoting In re Gurley, 27 F.3d 551, 553 (Fed. Cir. 1994)) (noting that "a reference will teach away if it suggests that the line of development flowing from the reference's disclosure is unlikely to be productive of the result sought"). For , this reason, even if the Examiner attempts to combine the teaching of the background section of the Hsieh and the remainder of that disclosure, there cannot be a reason to combine the teachings, as Hsieh clearly teaches away from an output frequency that is less than the input frequency.

The Applicant re-asserts each of the traverses made in the paper filed on April 12, 2006, and incorporates them herein by reference.

4

253562.1

Conclusion

In view of the arguments above, Applicant respectfully submits that the pending claims are in condition for allowance and seek an early allowance thereof. If for any reason the Examiner is unable to allow the application in the next Office Action and believes that a telephone interview would be helpful to resolve any remaining issues, he is respectfully requested to contact the undersigned.

Respectfully submitted,

Guştavo Siller, Jr.

Registration No. 32,305

Attorney for Applicant

BRINKS HOFER GILSON & LIONE P.O. BOX 10395 CHICAGO, ILLINOIS 60611-5599 (312) 321-4200 tequila sunrise n (1965): a cocktail consisting of tequila, orange juice,

requils sunrise n (1905): a cocktail consisting of tequila, orange juice, and grenadine ter-comb form [L. fr. ter; akin to Gk & Skt tris three times, L tres three — more at THREE]: three times: threefold: three (tercentenary) tera-comb form [ISV, fr. Gk terat, teras monster]: trillion (terawatt) tera-byte (ter-c-bit) n (1982): a unit of computer information storage capacity equal to about one trillion bytes; specif: 1,099,511,627,776

bytes
te-rai \to-'ri\n [Tarai, lowland belt of India] (1888): a wide-brimmed
double felt sun hat worn esp. in subtropical regions
ter-uph \ter-a\forall n, pl ter-a-phim \ter-a-fim\ [Heb teraphim (pl. in form
but sing, in-meaning)] (14c): an image of a Semitic household god
terat- or terato-comb form [Gk, fr. terat-, teras marvel, portent, monster]: developmental malformation (teratogenic)
ter-ato-gen \ter-\ter-a-ta-jun\n (1959): a teratogenic agent
ter-ato-gen \ter-a-ta-jun\n (1959): a teratogenic agent
ter-a-to-gen-e-sis \ter-a-ta-je-na-sas\n [NL] (1901): production of developmental malformations
ter-a-to-gen-ic\ter-a-ta-jun\n (1879): of, relating to, or causing develop-

velopmental malformations ler-a-to-gen-ic \-'je-nik\ adi (1879) : of, relating to, or causing develop-mental malformations (~ substances) (~ effects) — ter-a-to-ge-nic-

ter-a-to-log-dical \ter-o-t^2-l-i-kol\ or ter-a-to-log-dic \-jik\ adj (1857)

1-2-abnormal in growth or structure 2: of or relating to teratology

ter-a-to-lo-gy \ter-o-t^2-l-j-j\ n (ca. 1842): the study of malformations

or serious deviations from the normal type in organisms — ter-a-tol-ogist \-iist\ n

er-a-to-ma \ter-o-to-ma\ n [NL] (1879): a tumor made up of a heterogeneous mixture of tissues

tera-watt \ter-o-1wat\ n (1970): a unit of power equal to one trillion

waits
ter-bi-um \'tor-be-om\ n [NL, fr. Ytterby, Sweden] (1843): a usu. trivalent metallic element of the rare-earth group — see ELEMENT table
terce \'tors\ n, often cap [ME, third, terce — more at TIERCE] (14c): the
third of the canonical hours
ter-cel \'tor-sol\ var of TIERCEL

ter-cel 'tor-sol' var of TIERCEL

ter-cen-ten-ary 'tar-Gyen-'to-no-re, ()tor-'sen-t'n-er-e\ n, pl-ries

(1855): a 300th anniversary or its celebration — tercentenary adj

ter-cen-ten-all \tor-Gyen-'to-no-re, ()tor-'sen-t'n-er-e\ n, pl-ries

(1855): a 300th anniversary or its celebration — tercentenary adj

ter-cen-ten-all \tor-Gyen-'to-no-re, ()tor-'sen-t'n-er-e\ n, pl-ries

(1855): a 300th anniversary or its celebration — tercentenary adj

ter-cen-ten-all \tor-Gyen-'to-no-re, ()tor-gyen-ten-er-el-no-re, ()tor-gyen-ten-el-no-re, ()tor-gyen-

early English drama as a violent character 2: an overbearing

early English drama as a violent character 2: an overbearing sing woman: SHREW

*termagant adi (1596): OVERBEARING, SHREWISH
termagant adi (1596): OVERBEARING, SHREWISH
termagant adi (1596): a person serving for a specified terms
a political office or in prison) (a furst ~)
termina-ble ('tor-ma-ble), 'torma-\adi [ME, fr. terminen womate, fr. MF terminer, fr. L terminare] (150): capable of being terminate, fr. MF terminen, fr. L terminare] (150): capable of being terminal ('torma-ble-ness n — termina-bly \-ble\) adv

'terminal ('torma-ble-ness n — termina-bly\) \-ble\) adv

'terminal ('torma-bl, 'tor-ma-n') \adi [L terminalis, fr. terminalis, fr.

point on another line to form an angle measured in a closely counterclockwise direction — compare INITAL SIDE

*ter-mi-nate \tar-mo-not\ adj [ME, fr. L. terminatus, pp. of terminate \tar-mo-not\ adj [ME, fr. L. terminatus, pp. of terminate \tar-mo-not\ adj [ME, fr. L. terminatus, pp. of terminate \tar-mo-not\ adj [ME, fr. L. terminatus, pp. of terminate \tar-mo-not\ adj [ME, fr. L. terminatus, pp. of terminate \tar-mo-not\ adj [ME, fr. L. terminatus, pp. of terminate \tar-mo-not\ adj (1610) 1: to extend a limit (as a point or line); esp: to reach a terminaus 2: to forminate \tar-mo-not\ adjusted \text{of the significance} \text{of the

rerunating decimal n (ca. 1909): a decimal which can be explained in the number of figures or for which all figures to the right place are zero—compare REPEATING DECIMAL ter-mi-na-tion \(\psi \) to -ma-ina-shan\(\nabla \) n (ca. 1500): 1: end in this tence: CONCLUSION (the ~ of life) 2: the last part of a second inflectional ending 3: the act of terminating 4: a limit or extent: BOUND 5: OUTCOME, RESULT — terminating 4: \(\psi \) limit \(\psi \) shan \(\ext{1} \) \(\psi \) di \-shnəl, -shə-n°l\ adi

\text{\text{1.5in-in}} \\ \adj \text{\text{(15c)}} : tending or serving \text{\text{\text{termi-na-tive}}} \\ \text{\text{tor-mo-ina-tive}} \\ \text{\text{tor}} \\ \text{\text{tor}} \\ \text{\text{tor}} \\ \text{\text{tor}} \\ \text{\text{1.7in}} \\ \text{\text{1.7in}} \\ \text{\text{1.7in}} \\ \text{\text{1.7in}} \\ \text{\text{1.7in}} \\ \text{\text{1.7in}} \\ \text{\text{tor}} \\ \text{\text{tor}} \\ \text{\text{1.7in}} \\ \text{

ter-mi-na-tor \-nā-tor\ n (1770) 1: the dividing line between minated and the unilluminated part of the moon's or a planet's cone that terminates ter-mi-noloogy \-tor-ma-'nā-l-jē\ n, pl -gies [ML terminus pression (fr. L, boundary, limit) + E-o-+-logy] (1801) 1: the or special terms used in a business, art, science, or special star nomenclature as a field of study — termin-no-log-l-cal-ly\-ji-k(o-)lē\ adv term insurance n (1897): insurance for a specified period that for no payment to the insured except on losses during the path at becomes void upon its expiration ter-mi-nus\-tor-ma-nas\ n, pl -ml\-\ni_n, \-ni\-\ni\ n \rm \cdot\ n -nus-es [L, be end — more at TERM| (ca. 1617) 1: a final goal: a finishing a post or stone marking a boundary 3: either end of a transline or travel route; also: the station, town, or city at such a TERMINAL 4: an extreme point or element: TIP (the ~ of a terminus ad quem \-\nad{\text{d}}\-\text{kwe}\n \nad{\text{m}} n \nad{\text{l}}\, lit., limit to which] (ca. 18 point of origin 2: a first limiting point in time terminus a quo \-\nad{\text{d}}\-\text{kwe}\n \nad{\text{n}} n, pl -la \-\cop\-\overline{\text{c}}\-\nad{\text{N}}\). The terminus a quo \-\nad{\text{d}}\-\text{kwe}\n \nad{\text{n}} \nad{\text{l}} n, pl -la \-\cop\-\overline{\text{c}}\-\nad{\text{N}}\). The terminus a quo \-\nad{\text{d}}\-\text{kwe}\n \nad{\text{n}} n, pl -la \-\cop\-\overline{\text{c}}\-\nad{\text{l}}\-\text{l}\).

termites' nest mi-tary \'tər-mə-,ter-ë, -,mī-,ter-ë\ n, pl -tar-ies (1826) : Ti

ter-mite \'tor-mit\ n [NL Termit-, Termes, genus of termites, worm that eats wood, alter. of L termit-, tarmes; akin to Gk to bore — more at THROW] (1781): any of numerous pale-coler bodied social insects (order Isoptera) that live in colonies of usu. of winged sexual forms, wingless sterile workers, and solding on wood, and include some which are very destructive to structures and trees — called also white ant term-less \'tarm-los\' adj (ca. 1541) 1: having no term or end in LESS, UNENDING 2: UNCONDITIONED, UNCONDITIONAL term paper n (1926): a major written assignment in a school of course representative of a student's achievement during a term \tag{tern\tarm} n [of Seand origin: akin to Dan terme term [1678];

tern \text{\text{torn\ n [of Scand origin; akin to Dan terne tern] (1678; various chiefly marine birds (subfamily Sterninae of the family and esp. genus Sterna) that differ from the related gulls in use a more slender build, a sharply pointed bill, narro

an often forked tail

ter-na-ry \tar-na-r\(\text{e}\) \ dif [ME, fr. L ternarius, fr. terni three est

to L tres three — more at THREE (15c) 1 a: of, relating to, to L tres three — more at THREE] (15c) 1 a: of, relating (6) ceeding by threes b: having three elements, parts, or divisions ranged in threes (~ petals) 2: using three as the base (a writhm) 3 a: being or consisting of an alloy of three elements relating to, or containing three different elements, atoms, radigroups (sulfuric acid is a ~ acid) 4: third in order or rank ternate (tor-nat, -nat) adj [NL ternatus, fr. ML, pp. of ternate ble, fr. L terni] (1760): arranged in threes or in subdivisions ranged (a ~ leaf) — ter-nate-ly adv

* \'torn\ n [terneplate] (1891) 1: an a ratio of four to one that is used as the 2: TERNEPLATE

r-plate \-,plat\ n [prob. fr. F terne dul f plate] (ca. 1858): sheet iron or steel ser parts lead to one part tin pene \tau-ppen \text{ fr. G Ter} \text{Mina} + ene — more at TURPENTINE sert hydrocarbons Collific found presen (sr. hydrocarbons Collific found presen as solvents and in or numerous hydrocarbons (C₅H₈), foun balsams — ter-pene-less \-las\ adj

numerous hydrocarbons (CsHs), foun w balsams — ter-pene-less \-las\ adj ... pē\ adj or n ... pene-less \-las\ adj ... pē\ adj or n ... pene-less \-las\ adj ... pē\ adj or n ... pene-less \-las\ adj ... pene-less \-las\ ad in ly-mer \to:-pā-la-mar\ n (1947): a ir results from copolymerization of thr in the hore \tau-re-\frac{1}{1} - results from copolymerization of thr in the of dancing and choral song relicho-re-an \tau-re-\frac{1}{1} - re-\frac{1}{1} - re-\frac

First State of the state of the

with the string of the string of the string of the string of park in the middle of a string of park in the middle of a string of park in the middle of a string of the str

sid ground sin \to-ran also te-\ n [F, land, ground

of L terrenum, fr. neut. of terrenus of 1 a (1): a geographical area (2): a physical features of a tract of land 2 whodge or interest: TERRITORY b: E for line og: ni-ta\ter-o-in-kag-'ne-ta, -ir-kag-'ne-ta, -in-kag-'ne-ta, -in-kag-'ne-ta, -in-kag-'ne-ta, -in-kag-'ne-ta, -in-kag-'ne-ta, -in-kag-'ne-ta\ter-o-ta-kag-'ne-ta\ter-o-ta-kag-'ne-ta\ter-o-ta-kag-'ne-ta-kag-'ne-ta-kag-'ne-ta-kag-'ne-ta-kag-'ne-ta-kag-'ne-ta-kag-'ne-ta-kag-'ne-ta-kag-'ne-ta-kag-'ne-ta-kag-'ne-ta-kag-'ne-ta-kag-'ne-ta-kag-'ne-ta-kag-'ne-ta-kag-'ne-ta-kag-'ne-ta-kag-'ne-ta-kag-'ne-ta-kag-'ne-ta-kag-'ne-ta-kag-'ne-ta-kag-'ne-ta-kag-'ne-ta-kag-'ne-ta-kag-'ne-ta-kag-'ne-ta-kag-'ne-ta-kag-'ne-ta-kag-'ne-ta-kag-'ne-ta-kag-'ne-ta-kag-'ne-ta-kag-'ne-ta-kag-'ne-ta-kag-'ne-ta-kag-'ne-ta-kag-'ne-ta-kag-'ne-ta-kag-'ne-ta-kag-'ne-ta-kag-'ne-ta-kag-'ne-ta-kag-'ne-ta-kag-'ne-ta-kag-'ne-ta-kag-'ne-ta-kag-'ne-ta-kag-'ne-ta-kag-'ne-ta-kag-'ne-ta-kag-'ne-ta-kag-'ne-ta-kag-'ne-ta-kag-'ne-ta-kag-'ne-ta-kag-'ne-ta-kag-'ne-ta-kag-'ne-ta-kag-'ne-ta-kag-'ne-ta-kag-'ne-ta-kag-'ne-ta-kag-'ne-ta-kag-'ne-ta-kag-'ne-ta-kag-'ne-ta-kag-'ne-ta-kag-'ne-ta-kag-'ne-ta-kag-'ne-ta-kag-'ne-ta-kag-'ne-ta-kag-'ne-ta-kag-'ne-ta-kag-'ne-ta-kag-'ne-ta-kag-'ne-ta-kag-'ne-ta-kag-'ne-ta-kag-'ne-ta-kag-'ne-ta-kag-'ne-ta-kag-'ne-ta-kag-'ne-ta-kag-'ne-ta-kag-'ne-ta-kag-'ne-ta-kag-'ne-ta-kag-'ne-ta-kag-'ne-ta-kag-'ne-ta-kag-'ne-ta-kag-'ne-ta-kag-'ne-ta-kag-'ne-ta-kag-'ne-ta-kag-'ne-ta-kag-'ne-ta-kag-'ne-ta-kag-'ne-ta-kag-'ne-ta-kag-'ne-ta-kag-'ne-ta-kag-'ne-ta-kag-'ne-ta-kag-'ne-ta-kag-'ne-ta-kag-'ne-ta-kag-'ne-ta-kag-'ne-ta-kag-'ne-ta-kag-'ne-ta-kag-'ne-ta-kag-'ne-ta-kag-'ne-ta-kag-'ne-ta-kag-'ne-ta-kag-'ne-ta-kag-'ne-ta-kag-'ne-ta-kag-'ne-ta-kag-'ne-ta-kag-'ne-ta-kag-'ne-ta-kag-'ne-ta-kag-'ne-ta-kag-'ne-ta-kag-'ne-ta-kag-'ne-ta-kag-'ne-ta-kag-'ne-ta-kag-'ne-ta-kag-'ne-ta-kag-'ne-ta-kag-'ne-ta-kag-'ne-ta-kag-'ne-ta-kag-'ne-ta-kag-'ne-ta-kag-'ne-ta-kag-'ne-ta-kag-'ne-ta-kag-'ne-ta-kag-'ne-ta-kag-'ne-ta-kag-'ne-ta-kag-'ne-ta-kag-'ne-ta-kag-'ne-ta-kag-'ne-ta-kag-'ne-ta-kag-'ne-ta-kag-'ne-ta-kag-'ne-ta-kag-'ne-ta-kag-'ne-ta-kag-'ne-ta-kag-'ne-ta-kag-'ne-ta-kag-'ne-ta-kag-'ne-ta-kag-'ne-ta-kag-'ne-ta-kag-'ne ***·my·cin \ter-ə-'mī-s'n\ trademark -***ne \tə-'rān, te-\ n [alter. of terrain] () which a particular rock or group

h la ph. http://ppn. tar-\ n [of Algonhin \text{'ter-2-pən, 'tar-\ n [of Algonhi origin; akin to Delaware (dial. of
y York) to pe-w, a kind of turtle]
hi : any of various aquatic turtles
hily Emydidae); esp : DIAMONDBACK MAAPIN

wue-ous \te-'rā-kwē-əs, tə-, -'ra-\ adj wu land + E aqueous] (ca. 1658) : con-er of land and water

when the trace of the state of

carent enclosure for keeping or rais ## tas turtles) indoors | ## tas time or and given a high poli | ## tas time or and given a high poli | ## tas time or and given a high poli | ## tas time or and given a high poli | ## tas time or and given a high poli | ## tas time or and area: EARTH, TE; | ## plenus filled with earth | (1591): the | ## tas time or and time or guns are mounted

rampart where guns are mounted the tri-al \ta-'res-t(r)e-al; -'res-chal, -'res-t(r)e-al; white al (12-'res-(f)E-3|; -'res-chol, -'res' mu earth — more at TERRACE] (15c)

in its inhabitants (~ magnetism) b

in PROSAIC 2 a : of or relating to land

inansportation) b (1): living on or i

in (2): of or relating to terrestrial or

gene to the class of planets that are like

evertial n — ter-res-tri-al-ly adv

in [ME turette, alter. of toret

in [me — more at TURN] (15c): one

wo pad through which the reins pass

which evertial n [ME fur MF, fr. L

more at TERROR] (15c) 1 a : exciting

IERRIFYING b : formidable in natu

in the vertical time of the class of the cla

c: DIFFICULT (in a ~ bind) 2:
perintment) 3: extremely bad: as a:
first ~ smell) b: notably unattract
poor quality (a ~ movie) — ter-ri-bl

m-lous \te-'ri-kə-ləs, tə-\ adi [L tem lim · colere to inhabit — more at wheel